CLAIMS

1. A method for supplying a system for sound attenuation of noise relating to an exhaust system (1) of exhaust gases from a high power combustion engine (4), such as the exhaust system (1) at a ship (2) or power plant, **characterized** in that the method comprises the steps of:
- adding (7) to a model of the exhaust system, by means of a computing device (13), a plurality of elements (20a, 20b) where each element comprises a first reactive part (21), a resistive part (22) and a second reactive part (23);
- inserting (8) into the model, by means of the computing device (13), at least one single attenuating device (44, 45);
- calculating (9), by means of the computing device (13), an attenuating effect of the elements (20a, 20b) and an attenuating effect of the at least one single attenuating device (44, 45) relating to a sound pressure level of the high power combustion engine (4);
- repeating (10) the inserting and calculating step, until sufficient attenuation is achieved;
- assembling (11) the system for sound attenuation, such that it comprises a plurality of real-world elements and at least one real-world single attenuating device mounted as channel parts along the exhaust system, wherein a measured noise level at the close vicinity of the outlet is below a desired noise level.

2. A method according to claim 1 **characterized** in that a contribution to an estimated attenuated effect comprises a band of frequencies corresponding to intermediate frequencies (60) of an element (20).

3. A method according to claim 2 **characterized** in that the contribution to the estimated attenuated effect from intermediate frequencies of an element (20) are calculated by use of four-pole theory and by use of power flow models.

4. A method according to claim 1 or 3 **characterized** in that the at least one single reactive attenuating device (45) is positioned at an odd number of a quarter of a wavelength from a distinct impedance, such as an area increase (46), where the wavelength is the single attenuating device's tuned frequency.

5. A method according to claim 4 with the additional step of calculating a pressure drop along the exhaust system (1).

6. A method according to any previous claim characterized in that the minimum length of the exhaust system is 8 meters, the effect of the combustion engine (4) is greater than 500 kW.

7. A method according to claim 6 where the exhaust system (1) comprises a heat exchanger or boiler (5, 42), which reduces the temperature of the exhaust gas in the exhaust system (1) and therefore the wavelength of the sound decreases after the heat exchanger or boiler (5, 42), and the at least one single attenuating device is positioned in an odd number of a quarter of a wavelength from the outlet of the heat exchanger or boiler (5, 42), where the wavelength is the single attenuating device's tuned frequency.

8. The use of the method according to claim 1.

9. A computer program stored on a media loadable into the memory of a computing device (13) **characterized** in that the computer program is capable of executing any of the steps according to claim 1.

10. An elongated exhaust system of exhaust gases from a high power combustion engine (4) **characterized** that a system for sound attenuation (47) of noise is supplied to the exhaust system according the method of claim 1.